

## REMARKS

Claims 1 and 3-17 are pending in this application. By this Amendment, new claims 14-17 are added.

No new matter is added to the application by this Amendment. New claims 14-17 find support at page 5, lines 14-19, page 6, lines 1, 2, 6-8 and the paragraph bridging pages 6 and 7.

Reconsideration of the application is respectfully requested.

### **I. Rejections Under 35 U.S.C. §103**

#### **A. Hishida in view of Marongiu**

Claims 1, 4-8, 10, 12 and 13 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over JP 05-202342 to Hishida in view of U.S. Patent No. 4,503,184 to Marongiu. The rejection is respectfully traversed.

The Patent Office acknowledges that Hishida teaches the features of the present claims with the exception of the adhesive comprising aqueous dispersion of styrene-acrylic acid derivative copolymers having a styrene fraction of from 40 to 70% by weight. The Patent Office introduces Marongiu as allegedly disclosing an aqueous dispersion containing a mixture of a latex of a copolymer A of butadiene styrene and at least one unsaturated carboxylic acid, and a latex of a copolymer B of styrene and an alkyl acrylate, and if appropriate, at least one unsaturated carboxylic acid. The Patent Office alleges that it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the aqueous adhesive dispersion of Marongiu to coat the polyvinyl chloride (PVC) backing of Hishida, motivated by the desire to form an

adhesive tape with a suitable adhesive that is compatible with polyvinyl chloride backing. Applicants respectfully disagree with the allegations of the Patent Office.

Applicants submit that a *prima facie* case of obviousness cannot be established because the skilled artisan would not have been motivated to apply the teachings of Marongiu to modify Hishida to achieve the presently claimed invention. Though Applicants do not concede that a combination of Marongiu and Hishida teaches all of the limitations of the presently claimed invention, even if such was the case, the skilled artisan would not have been motivated to combine these teachings.

First, both the present claims and Hishida are directed to adhesive tapes and/or sheets. Marongiu, on the other hand, is directed to aqueous dispersions of synthetic resins as binders in adhesive compositions for gluing two elements. Specifically, Marongiu relates to a liquid glue formulation, not adhesive tapes as disclosed in Hishida and required in the present claims. There is no teaching or suggestion in Marongiu or in its combination with Hishida that would have suggested that the formulation described in Marongiu is useful in solid form as a layer of an adhesive tape. Absent such teaching or suggestion in Marongiu or in its combination with Hishida, persons ordinarily skilled in the art would not have had a motivation to form a layer of the tape according to Hishida with the formulation described in Marongiu as alleged by the Patent Office.

Second, it is known that migration of plasticizers from plasticized PVC into an adhesive layer adversely affects adhesive properties (bond strength and cohesion) between the plasticized PVC and the adhesive layer (see page 4, lines 1-5 of the present specification). It is also known that the unwanted effect of plasticizer migration is to a particular severe extent when water-based adhesives are used and causes a distinct reduction in the bond strength and cohesion with conventional aqueous

adhesives, such as acrylate dispersions (see page 4, lines 6-12 of the present specification). To the contrary, Hishida discloses an unexpected anchoring effect between a vinyl chloride base material and the adhesive layer over time when shifting of the plasticizer from the base material to the adhesive layer is increased (see paragraph [0011] of the English translation of Hishida). However, this advantageous anchoring effect is caused by a cross-linking reaction formed in the acrylic resin-type adhesive agent by the stabilizer containing metal that shifted with the plasticizer to the adhesive layer over time. Therefore, persons ordinarily skilled in the art would have reasonably expected the advantages of such migration to be limited to the systems disclosed in Hishida.

Hishida fails to teach or suggest the adhesive comprising aqueous dispersion of styrene-acrylic acid derivative copolymers having a styrene fraction of from 40 to 70% by weight as acknowledged by the Patent Office. In view of the deficiencies of Hishida, the unwanted effect of plasticizer migration and advantages associated with a particular acrylic resin adhesive system described in Hishida, persons ordinarily skilled in the art would not have been motivated to deviate from the Hishida's adhesive system that exhibits advantages upon plasticizer migration. Additionally, persons ordinarily skilled in the art would not be motivated to deviate from Hishida's adhesive system to substitute a completely different adhesive system where such advantages might not be realized, particularly where, as here, the completely different adhesive system is described as a liquid glue rather than an adhesive layer of comparable adhesive layer.

Because the liquid glue formulation of Marongiu and the solid layer of Hishida are so different, the skilled artisan would not have looked to use teachings of a liquid glue formulation in a solid layer of an adhesive tape. Accordingly, there is no motivation to

combine the teachings of Hishida and Marongiu to achieve the presently claimed invention.

Based on the foregoing, Applicants submit that a *prima facie* case of obviousness has not been established, and respectfully request that the Patent Office withdraw these rejections.

**B. Hishida in view of Marongiu and Schwarcz**

Claims 3, 8 and 9 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Hishida in view of Marongiu and further in view of U.S. Patent No. 4,002,794 to Schwarcz. The rejection is respectfully traversed.

As set forth above with respect to claim 1, Applicants submit that a *prima facie* case of obviousness cannot be established because the skilled artisan would not have been motivated to apply the teachings of Marongiu to modify Hishida to achieve the presently claimed invention.

Schwarcz fails to remedy the deficiencies of Hishida as described above with respect to claim 1, from which claims 3, 8 and 9 depend. Specifically, Marongiu fails to teach or suggest the adhesive comprising aqueous dispersion of styrene-acrylic acid derivative copolymers having a styrene fraction of from 40 to 70% by weight.

Based on the foregoing, Applicants submit that a *prima facie* case of obviousness has not been established, and respectfully request that the Patent Office withdraw these rejections.

**C. Hishida in view of Marongiu and Glennon**

Claim 11 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Hishida in view of Marongiu and further in view of U.S. Patent 4,311,759 to Glennon. The rejection is respectfully traversed.

As set forth above with respect to claim 1, Applicants submit that a *prima facie* case of obviousness cannot be established because the skilled artisan would not have been motivated to apply the teachings of Marongiu to modify Hishida to achieve the presently claimed invention.

Glennon does not remedy the deficiencies of Hishida as described above with respect to claim 1, from which claim 11 depends. Nowhere does Glennon disclose the adhesive comprising aqueous dispersion of styrene-acrylic acid derivative copolymers having a styrene fraction of from 40 to 70% by weight.

Based on the foregoing, Applicants submit that a *prima facie* case of obviousness has not been established, and respectfully request that the Patent Office withdraw these rejections.

**D. Hishida in view of Marongiu and Donald**

Claims 1, 12 and 13 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Hishida in view of Marongiu and further in view of U.S. Patent 3,576,941 to Donald. The rejection is respectfully traversed.

As set forth above with respect to claim 1, Applicants submit that a *prima facie* case of obviousness cannot be established because the skilled artisan would not have been motivated to apply the teachings of Marongiu to modify Hishida to achieve the presently claimed invention.

Donald fails to remedy the deficiencies of Hishida as described above with respect to claim 1, from which claim 11 depends. Nowhere does Donald disclose the adhesive comprising aqueous dispersion of styrene-acrylic acid derivative copolymers having a styrene fraction of from 40 to 70% by weight.

Based on the foregoing, Applicants submit that a *prima facie* case of obviousness has not been established, and respectfully request that the Patent Office withdraw these rejections.

## II. New Claims

### A. Claims 14-16

The references of record, taken singly or in combination, further fail to disclose an adhesive tape, (a) wherein the plasticizers are polymeric plasticizers (see new claim 14), (b) wherein the plasticizers are polymeric esters of phthalic acid, adipic acid or phosphoric acid and polyhydric alcohols (see new claim 15), and (c) which comprises a combination of said polymeric plasticizers and one or more monomeric plasticizers (see new claim 16).

Hishida discloses that “when the molecular weight of the plasticizer is large, it is difficult for the plasticizer that has shifted to the adhesive agent layer to transpire” and “examples of the aforementioned plasticizer include dioctyl phthalate (DOP), dibutyl phthalate (DBP), dimethyl phthalate (DMP), diisodecyl phthalate (DIDP), and diaryl phthalate (DAP)” (see paragraphs [0014] and [0015] of Hishida). Additionally, Hishida teaches that large molecular weight plasticizers prevent obtaining sufficient initial adhesive strength and long-term adhesion and that plasticizers with a small molecular weight are desirable (see paragraphs [0017] of Hishida).

Thus, Hishida teaches away from use of plasticizers that have large molecular weights, such as polymeric plasticizers (see new claims 14 and 16) and polymeric esters of phthalic acid, adipic acid or phosphoric acid and polyhydric alcohols (see new claim 15). Moreover, Hishida teaches away from use of the plasticizers recited in claims 14-16 because Hishida discloses that the advantages attendant upon plasticizer

migration cannot be achieved by plasticizers that are too big to migrate. Thus, Applicants submit that the claimed adhesive tape recited in claims 14-16 would not have been obvious to one of ordinary skill in the art in view of the references of record.

**B. New Claim 17**

The references of record, taken singly or in combination, further fail to disclose a method of preparing an adhesive tape requiring forming a layer on one or both sides of the sheet of an aqueous dispersion of styrene-acrylic acid derivative copolymers, wherein the aqueous dispersion is not itself self-adhesive and choosing the content of the one or more plasticizers so that the plasticizers migrate into the layer(s) in an amount sufficient to render the layer(s) self-adhesive as recited in claim 17.

As set forth above with respect to claim 1, the Patent Office has acknowledged that Hishida fails to teach or suggest an adhesive comprising an aqueous dispersion of styrene-acrylic acid derivative copolymers. Thus, Hishida clearly fails to teach or suggest forming a layer on one or both sides of the sheet of an aqueous dispersion of styrene-acrylic acid derivative copolymers. Additionally, Marongiu relates to a liquid glue formulation and does not teach or suggest a layer of an aqueous dispersion of styrene-acrylic acid derivative copolymers as required by claim 17.

**III. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1 and 3-17 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Applicants request that this be considered a petition therefor. Please charge the required petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fee or credit any excess to Deposit Account No. 14-1263.

Respectfully submitted,  
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